ORIGINAL PAPER

DOI: 10.26794/2587-5671-2023-27-1-42-53
JEL G01, G14, G21, G23, G40

The Impact of Former Top Managers Legal Scandals on Stock Prices of Companies

L.C.M. Phuong
Industrial University of Ho Chi Minh City, Ho Chi Minh, Vietnam

ABSTRACT

The **main objective** of this article is to study the impact of a scandal with the Vice Chairman of the Founding Board – VCFB (former member of the Board of Directors – BoD) and the former General Manager of Asia Commercial Bank (ACB) on the daily returns of shares of 9 sectors of the Vietnam's stock market. The **event study method** is used for each industry with many different event windows. **Research results** show that the announcement of an arrest warrant is an entirely unexpected event for the stock market because no industry reacts significantly in the days before the event. The reaction of industries was strongest 5 days after the event for the Banking and Finance industries and 2 days after the event for non-financial industries. The **conclusion** of the study shows that although the information is directly related to one bank – ACB, its spillover effects have covered all nine industries including the financial and non-financial industries on the Vietnam stock market (VST). The nature of cross-ownership among commercial banks in Vietnam (CB Vietnam) explains that negative information only creates a spillover effect within the industry but does not have a competitive effect in this industry. Social networks amplify herd mentality and spillover effects, negatively impacting the financial and non-financial industries in the stock market.

Keywords: financial scandals; event study; stock returns; non-financial industries; spillover effect; cross-ownership

For citation: **Phuong L.C.M. The impact of former top managers legal scandals on stock prices of companies. *Finance: Theory and Practice*. 2023;27(1):42-53. DOI: 10.26794/2587-5671-2023-27-1-42-53**

INTRODUCTION

Topics investigating stock market reactions often focused on unexpected events directly related to the business such as changes in top managers [1], fraud or legal-related allegations [2], and inappropriate behavior by celebrities who represent the company's brand [3]. However, research on the legal scandals of former top managers affecting stock prices is still scant.

In addition, announcements on stock price reactions to unexpected events in countries with developed stock markets such as the United States (US) and Europe dominate [4–6] but publications on this topic in lower-rated stock markets are still limited. The VST has so far only approached the standards of an emerging market, so the results of this study will contribute to understanding the reaction of stock prices to unexpected events in this stock market.

Furthermore, the scope of events used in previous studies is often quite narrow, focusing only on the stock price response of a single company [7] or a particular industry [5]. This may be because the event selected in previous studies was predicted to have only a narrow impact. However, there are events that, although directly related to one company, can have an impact on the stock market, so understanding the cross-sectoral impact of these events is very important.

The news that the VCFB of ACB was arrested in the late afternoon of August 20, 2012, caused the VNIndex on August 21, 2012, of the VST to drop 4.67%, the largest drop in a year since the end of 2008 [8], has shown that the influence of this event is quite wide. Therefore, this article will study the impact of this event on the stock prices of 9 different sectors on the VST.

LITERATURE REVIEW AND RESEARCH HYPOTHESIS

Literature Review

Studies that measure the impact of an event on an investor's wealth are often based on assumptions about efficient markets and unforeseen events [4, 9].

Efficient Market Theory: Stock market efficiency implies that stock prices already reflect all available information in the market. If this is true, then any

new information regarding a company disclosed to investors will quickly be incorporated into the stock price. In terms of market signals, [10, 11] the efficiency is classified as weak-form, semi-strong-form, and strong-form. Fama [11] has more extensive tests for each level of market efficiency than [10]. The weak-form test is not only intended to test the predictive power of return in the past but is also extended to test the predictive power of return. The semi-strong-form test should be extended to the study of stock price reactions to events more generally than testing price adjustments to public announcements only. Strong-form testing should focus on personal information rather than finding out what information is not available in the market.

Social networks and ownership structures explain contagion to unforeseen events: Unforeseen events are events that are widely reported in the press but were not previously available to the market. Published unforeseen events about an individual are often classified into financial relevance [2] and personal behavioral information [3]. It is the element of surprise that makes the event's impact on stock prices stronger [12].

Wilson's social network theory [13] explains the contagion of unforeseen events to other firms (in the same industry and across industries) in the stock market. Contagion for unforeseen events is generally divided into two types: signal contagion and pure contagion [14]. Signal contagion is the driving force behind the competitive effect within the industry. In other words, if an unforeseen disclosure is determined to be negative for one company, it will confer a positive (advantage) for the rest of the industry competitors. Unlike signal contagion, pure contagion is affected by more herd effects and often contagion across multiple industries.

Ownership structure: Cross-ownership is the phenomenon of mutual ownership of shares between companies. The simplest cross-ownership structure is the mutual holding of shares between two companies, the pair of companies A-B and B-A, between the three companies is called circular ownership of the form A-B-C-A [15]. The characteristic of cross-ownership is that the companies in this structure are linked together by horizontally cross-shareholding to consolidate and hold the power of the controlling shareholders [16]. In addition, [17] has shown that in countries with poor shareholder protection, ownership structures are often pyramidal. In this case, the power of controlling shareholders over the companies is often greater than their cash flow rights because they participate in the management or control of large companies with pyramidal ownership structures. The difference between cross-ownership and pyramidal ownership is that the voting rights in cross-ownership used to control a group are still distributed over the entire group, while pyramidal ownership is concentrated in a single company or few controlling shareholders [16].

Research Hypothesis

Previous empirical studies have shown that top manager legal scandal events can lead to a significant loss of market value of public companies, even though the impact of this event can be significant. Spread to companies in the same industry and interdisciplinary. This is especially true for events with an element of surprise [9].

Studying the relationship between a company's stock price performance and subsequent changes in the company's top management, [1] showed an inverse relationship between the probability changes of the BoD and the performance of the company's shares.

To investigate the extent and causes of market-imposed penalties on U.S. stock exchange-listed businesses accused of engaging in illegal conduct, [18] using all published allegations of corporate crime that appeared in the Wall Street Journal and The Dow Jones Interactive Data Base between January 1, 1982, and December 31, 1996. Murphy et al. [18] show that this negative information causes significant economic and statistical loss to shareholder wealth. The average value of property loss over the disclosure period was 1.64%. In particular, the loss to shareholders related to the fraud allegations is significantly greater than other damages. Similar to [18, 19] pointed out that fraudulent events or crimes are commonly identified as causing the most serious financial loss to businesses. Therefore, there is a need for a mechanism to eliminate ineffective managers and encourage managers to act in the interests of shareholders [1].

Perry and De Fontnouvelle [7] measured a company's reputational loss by investigating its

stock price response to a large operating loss announcement. Reputation damage occurs if the decline in the market value of the company is greater than the reported loss. The results show that events of external origin lead to a one-for-one drop in market value with operating losses, but found internally-originated frauds to cause more market value declines, twice the reported operating loss percentage. Therefore, [7] argues that only losses due to internal fraud have an impact on the company's reputation, while external losses have no meaningful impact on the company's reputation.

Gillett et al. [4] studied operational and reputational risk in the financial industry by analyzing events that caused operating losses for listed companies in Europe and the US between 1990 and 2004. The difference between the market value loss and the declared loss amount is reputation risk. In this way [4] separates reputational risk and operational risk. The results showed that on the day of the loss announcement, the abnormal profit was significantly negative with increased trading volume. The market reaction would be significantly worse if the operating loss announcements were due to fraud and the behavior also negatively affected the company's reputation. Gillett et al. [4] argue that the timing of uncertainty resolution is also of great significance, especially when the market perceives a change in the risk profile of a financial institution. Thus, overreactions to events of unknown magnitude represent a flaw in the semi-strong-form efficient market theory.

The overlapping ownership of joint stock CBVietnam is much more complicated than that of state-owned commercial banks. Among the joint-stock commercial banks, the ownership structure of ACB has the leading level of complexity. As of May 2012, ACB, directly and indirectly, owned 5 joint stock CBVietnam with an ownership rate of over 5% [15], including two banks, Eximbank (EIB) and Sacombank (STB) listed on VST. Therefore, an event related to ACB will negatively affect not only the bank itself but also the banks in which ACB holds a high percentage of ownership [20]. Therefore, the first hypothesis concerns the banking industry, which is:

H01: The announcement of a legal scandal by a bank's top manager has no effect on the loss of market value of the banking industry.

Examining the reaction of stock prices in the US stock market to 1995–1999 earnings adjustment announcements by companies in the financial and non-financial industries, [21] found that the average AR of these companies was –9% within 2 days of notice. These regulatory notices raise questions of competence and integrity, thus [21] emphasizes that such events have the potential to increase risk and uncertainty about the future prospects of companies.

Cummins et al. [12] studied operating loss events with a minimum loss value of $ 10 million in the banking and insurance industries in the US. Statistics by [12] show that there are at least 20 events per year for the banking industry and 10 events per year for the insurance industry between 1990 and 2002 where the loss value for each event is at least 10 million USD. The results of [12] emphasize that operating losses carry adverse future cash-flow effects that are indicated when market value losses from events significantly exceed reported operating losses. Events related to "clients, products, and business practices" are an important source of loss for both banks and insurance companies. In it, banks suffer more serious losses than insurance companies for events related to internal fraud and external fraud. In addition, studies from the event window demonstrate a significant pre-event information leakage for the banking sector but not for the insurance sector. This is one of the reasons why the stock price reaction of insurance companies is stronger than that of banks.

Biell and Muller [5] examine the market reaction to operating loss announcements exceeding $ 1 million in the financial services sector in Europe from December 1972 to May 2009. The results show that the magnitude and speed of the market response are different from negative events originating from investment banking and commercial banks. The market is more responsive to commercial bank loss announcements and the most reactive to losses in the investment banking sector. Events involving insider fraud cause the market to react much earlier and faster than other types of events.

Fiordelisi et al. [2] studied the performance loss disclosures affecting the reputation of banks (both commercial and investment banks) in Europe and the US from 1994 to 2008. Focusing on operating losses of $ 1 million or more, [2] found "fraud", "trading and sales", and "payment and settlement" as losses that significantly impacted reputation. Among them, frauds cause the greatest damage to reputation. By region, events in Europe caused more damage than in North America.

By mid-2012, ACB owned Eximbank (20%); through Saigon-A-Chau Financial Investment Joint Stock Company which owns 5% of Sacombank (STB), through ACB Securities Company which owns three other joint stock commercial banks including Vietbank (10%), Dai A (10.8%), Kien Long (6.1%) [15]. It can be seen that ACB has used subsidiaries that are businesses in the financial industry to cross-own other banks. Therefore, the second hypothesis proposed in the study is:

H02: The announcement of a legal scandal by a top manager of a bank has no effect on the loss of market value of companies in the financial industry.

Jory et al. [6] have investigated major scandals (both financial and non-financial) involving CEOs affecting companies listed on US stock exchanges from 1993 to 2011. By comparing the performance of scandal-hit companies with other firms, [6] shows that investors react negatively to scandal-hit companies. Using unadjusted data, [6] estimated the total value of losses suffered by shareholders due to these scandals to be about 152 billion USD. Large companies are often scandal-prone companies, and companies with significant cash flows are less likely to get bogged down in scandals and they are often able to quickly remove the negative impact.

Before his arrest in August 2012, the VCFB of ACB (a former member of the BoD of ACB before) was known as a multi-disciplinary businessman as he and his family owned many businesses operating in many different industries such as tourism, finance, and entertainment [22]. Therefore, the third hypothesis proposed by the study is:

H03: Legal scandal notification by a bank's top manager has no effect on the loss of market value of companies in non-financial industries.

Using an event study approach to compare the spillover effects of the three largest rogue traders in European investment banks in 1995, 2008 and 2011 on banks and the continent's largest undisclosed insurer, [9] shows a significant negative impact on market value loss for all three banks. In addition, [9] indicates that the bankruptcy of the announced company causes a negative impact on the undisclosed companies through the contagion effect. But the competitive impact of insider fraud events in investment banking on other banks and insurers is significantly stronger than the contagion effect. In other words, [9] argues that the discovery of internal fraud (scandal) by this investment bank has a significant positive impact on other banks and insurance companies. The fourth hypothesis proposed is:

H04: The effect of the top manager's legal scandal on the market value loss of the banking industry and other industries is similar in magnitude and duration.

METHOD

The objective of this study is to assess the impact of the legal events of former senior leaders related to ACB in 2012 on the banking, financial and non-financial sectors of the VST. To achieve the research objective, the article uses the event research method to test the hypotheses that have been put forward in the theoretical basis.

Determine the event date ($T = 0$): This study examines the stock market's reaction to unexpected news regarding a former senior executive of ACB in August 2012. On the evening of August 20, 2012, the investigative agency of Vietnam's Ministry of Public Security arrested the VCFB of ACB (former member of the BoD of ACB) for "illegal business" according to Article 159. Vietnam's Criminal Code, and the General Director of ACB was summoned by the police for questioning [23].[1] On August 23, 2012, the General Director of ACB resigned and was arrested on the same day for intentionally violating the State's regulations on economic management, causing serious consequences according to article

[1] Vietnam arrests banking tycoon, bank shares fall. Reuters. Aug. 21, 2012. URL: https://mobile.reuters.com/article/amp/idUKL4E 8JL1N 320120821 (accessed on 10.01.2023).

165-Vietnam's Penal Code.,[23] Since the arrest information regarding the two former senior leaders of ACB is quite close and both are published at the end of the day (stock market trading time has expired), this article uses the date of August 21, 2012, as the event date to analyze the market's reaction to this information.

The event study method is often used to measure the response of events to stock returns [24, 25]. There are three reasons why the fact-finding approach is ideal for studying the influence of former bank executives' legal involvement on the market share. First, a company's future earnings are reflected in current stock earnings [26] Second, stock prices adjust to event announcements [24, 25]. Third, stock prices reflect an unbiased estimate of future earnings suggesting that the stock market is inefficient [11]. Information about a former senior leader of ACB related to the law is unprecedented, so this is unexpected news for the market. The surprise of the event will be reflected in the AR and the CAR from the date of the event. The larger the value of the significant AR on the event date and the larger the significant cumulative abnormal return, the greater will be the impact of this event on stock returns. The calculation of AR and CAR when using the event research method is as follows:

Abnormal return: The market model proposed by [27] is used to calculate the extraordinary return of each industry for a particular event. A market model is used for each industry and its parameters are obtained using estimated daily data of 250 trading sessions (equivalent to 1 year) prior to the event date. The difference between the observed return and the predicted return generated by the market model is the AR or prediction error.

$$AR_{i,t} = R_{i,t} - (\widehat{\alpha_{i,t}} + \widehat{\beta_{i,t}} R_{m,t}), \quad (1)$$

where on the right side of equation (1): $AR_{i,t}$ is the average excess profit price over t days of industry i; the left side of equation (1) is the excess return in the market model; $R_{i,t}$ is the return observable on day t of sector i, $R_{i,t}$ is calculated as log ($P_{i,t} / R_{i,t-1}$). This study uses 9 different industries on the VST in 2012; $R_{m,t}$ is the return of the general index of VST on day t, $R_{m,t}$ is calculated as log ($P_{m,t} / R_{m,t-1}$). VNIndex's daily closing price is used as a general market index.–

- $\widehat{\alpha_{i,t}}$ is the intercept of industry i;
- $\widehat{\beta_{i,t}}$ is the systematic risk of the market;
- Coefficient $\hat{\alpha}$; and $\hat{\beta}$ obtained from the market model regression by ordinary least squares method.

The t-test for abnormal returns (AR) is calculated by formula (2)

$$t - stat_{AR} = \frac{AR_t}{\widehat{SD(AR_t)}}, \quad (2)$$

where $\widehat{SD(AR_t)} = \left(\frac{\sum_{t=1}^{T} \left(AR_t - \overline{AR} \right)^2}{T-1} \right)^{1/2}$ (3)

$T = 0$ is the event date

$$\overline{AR} = \frac{1}{T} \sum_{t=1}^{T} AR_t. \quad (4)$$

CAR in the period from day m to n is calculated as formula (5)

$$CAR_{m,n} = \left(\frac{1}{n} \right) \sum_{t=m}^{n} AR_{i,t}. \quad (5)$$

The t-test for cumulative AR is calculated by formula (6)

$$t - stat_{AR} = \frac{CAR_{m,n}}{\widehat{SD(CAR_{m,n})}}. \quad (6)$$

If ARs and CARs are statistically significant, the fact is that ACB's former top managers have an effect on stock returns.

Event windows: The study used many different event windows, but all ranged from 10 days before the event to 10 days after the event.

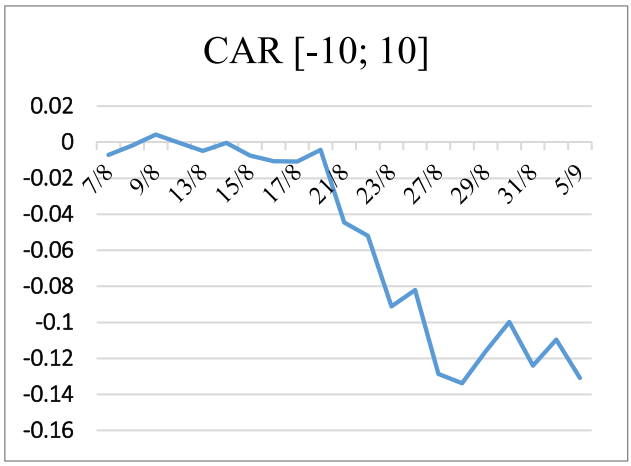
Research data: Due to the high proportion of the Banking industry in Vietnam's stock market [28], this

[2] Former general director of ACB Ly Xuan Hai arrested. Tuoitre. 2012. URL: https://tuoitre.vn/bat-nguyen-tong-giam-doc-nh-acb-ly-xuan-hai-508131.htm (In Vietnamese) (accessed on 10.01.2023).

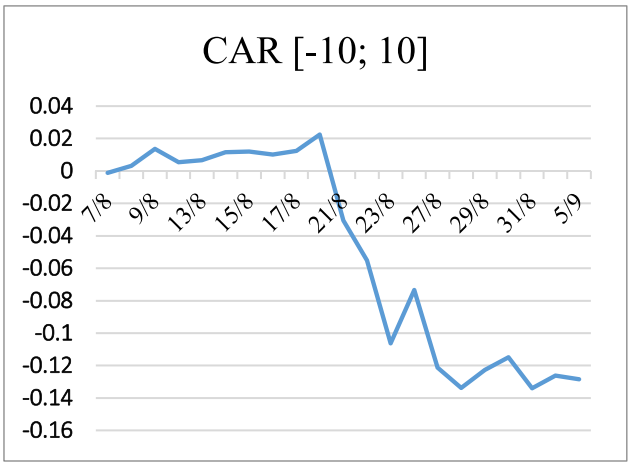
[3] Vietnam arrests ex-CEO of troubled ACB bank — report. Reuters. Aug. 24, 2012. URL: https://www.reuters.com/article/vietnam-bank-arrest-idUSL4E 8JO0IU 20120824 (accessed on 10.01.2023).

RESULTS

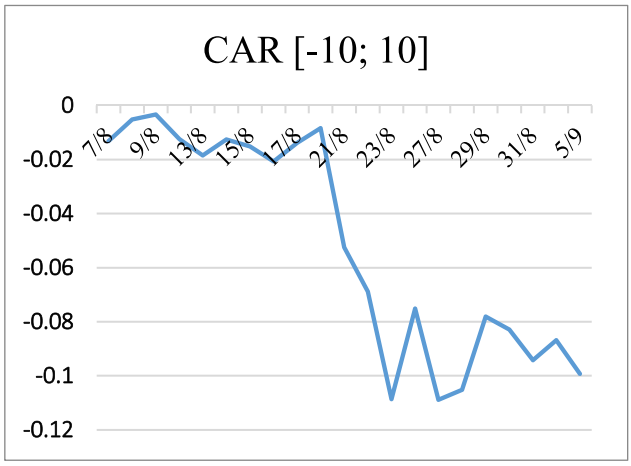
Finance (1)



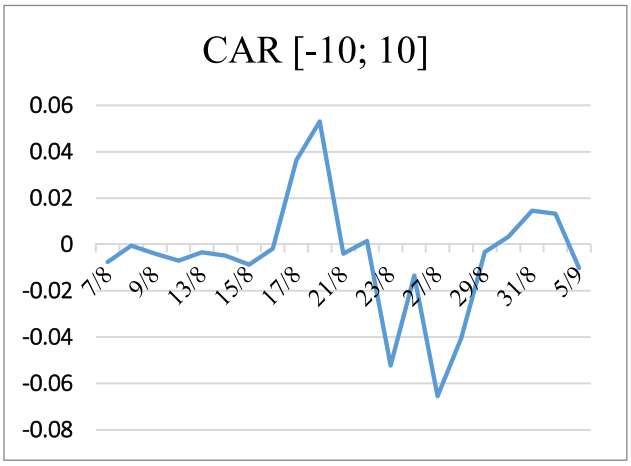
Banking (2)



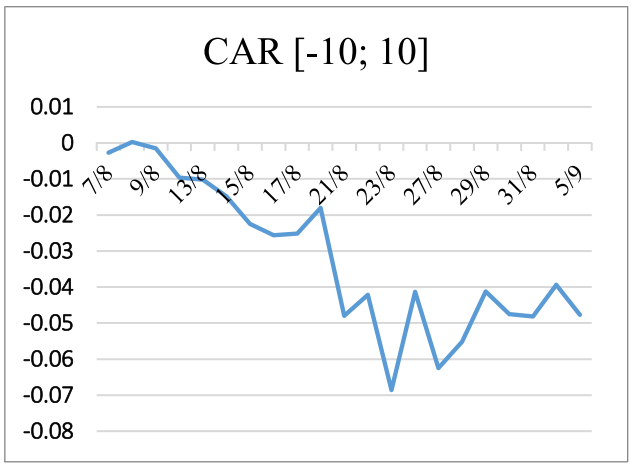
Industry (3)



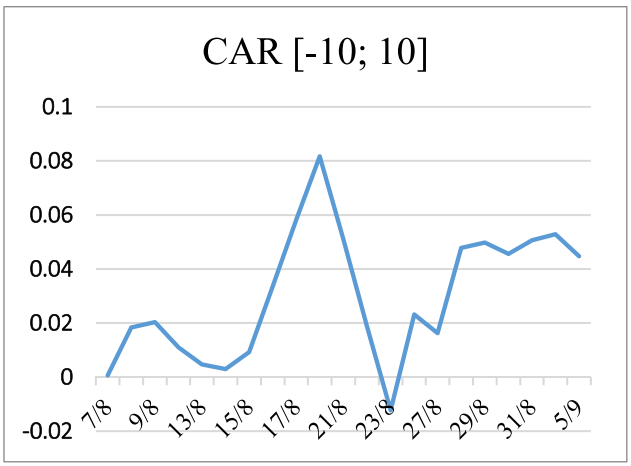
Oil & Gas (4)



Consumer Services (5)



Health Care (6)



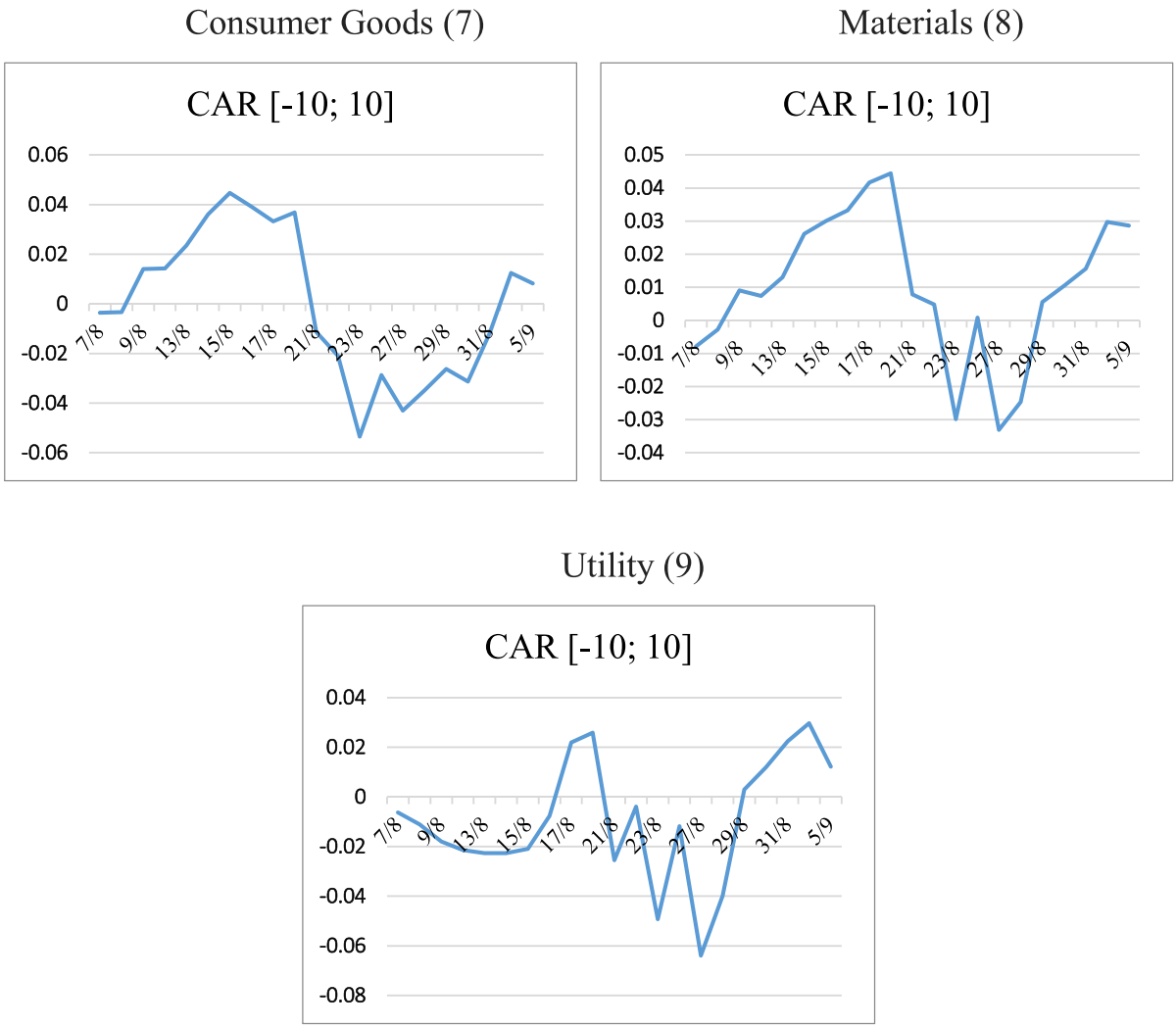


Fig. **Cumulative Abnormal Returns CAR [–10; 10] of 9 Industries in 2012**

Source: Authors' compilation and calculations.

industry is separated from the Finance industry. The Finance industry on Vietnam's stock market includes three sub- industries namely Financial Services, Insurance and Real Estate. This paper studies the market's reaction under nine industries (including Banking, Finance, Industry, Oil&Gas, Consumer Services, Health Care, Consumer Goods, Materials, and Utility). Industry index data source retrieved from FiinPro (URL: http://fiinpro.com/), and VNIndex is collected from Viet Capital Securities Company (URL: http://ra.vcsc.com.vn/Market/PriceHistory/-1?lang=en-US).

Figure shows the CAR from 10 days before the event to 10 days after the event for 9 different industry groups. There are 3 industries where CAR decreased by more than 10% including Finance (CAR [–10; 5]), Banking (CAR [–0; 5]) and Industry (CAR [–10; 4]); there are 3 industries where CAR decreased by 5–7% including Oil&Gas (CAR [–10; 4]), Utilities (CAR [–10; 4]) and Goods consumption (CAR [–10; 2]); and 2 industries with a decrease of less than 4% including Materials (CAR [–10; 4]) and Health Care (CAR [–10; 2]). Further analyzes of industry responses are presented and discussed shortly.

The results of *Table 1* show that at the event date, the AR of all 9 industries studied in this article are significantly negative. This shows that the arrest of the former top manager of ACB has had a widespread negative impact on the VST. To understand the reaction of stocks across sectors, it is important to investigate each industry in detail.

Table 1

Abnormal Return Results of Nine Industries

AR[*t*]	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
–6	–0.004	0.001	–0.006	0.004	–0.001	–0.006	0.009	0.006	–0.001
–5	0.005	0.005	0.006	–0.002	–0.005	–0.002	0.013	0.013	0.000
–4	–0.007	0.001	–0.003	–0.004	–0.008	0.006	0.009	0.004	0.002
–3	–0.003	–0.002	–0.006	0.007	–0.003	0.024	–0.006	0.003	0.013
–2	0.000	0.002	0.007	0.038	0.000	0.025	–0.006	0.008	0.030
–1	0.006	0.010	0.005	0.017	0.007	0.023	0.004	0.003	0.004
0	**–0.040****	**–0.053*****	**–0.044*****	**–0.057*****	**–0.030*****	**–0.031*****	**–0.048*****	**–0.037*****	**–0.051*****
1	–0.007	–0.025	–0.016	0.005	0.006	–0.032***	–0.010	–0.003	0.022
2	**–0.039****	**–0.051*****	**–0.040****	**–0.054*****	**–0.026****	**–0.031*****	**–0.033****	**–0.035*****	**–0.045****
3	0.009	0.033	0.033	0.039	0.027	0.036	0.025	0.031	0.037
4	**–0.047*****	**–0.048*****	**–0.034****	**–0.052****	**–0.021***	–0.007	–0.014	**–0.034*****	**–0.052*****
5	–0.005	–0.013	0.004	0.025	0.007	0.031	0.008	0.008	0.024
6	0.018	0.011	0.027	0.037	0.014	0.002	0.009	0.030	0.043
7	0.016	0.008	–0.005	0.007	–0.006	–0.004	–0.005	0.005	0.009
8	–0.024	–0.019	–0.011	0.011	–0.001	0.005	0.019	0.005	0.010
9	0.014	0.008	0.007	–0.001	0.009	0.002	0.024	0.014	0.007
10	–0.021	–0.002	–0.012	–0.023	–0.008	–0.008	–0.004	–0.001	–0.017

Source: Authors' compilation and calculations.

Banking industry: The news that a former senior leader of ACB was arrested in August 2012 caused a sharp drop in the share price of the banking industry, which was reflected in the AR and CAR. The AR of the Banking industry on the event day was AR[0] = –5.3%, the steepest decline in the industry's review days. It turns out that, at the time of the event, although the position of VCFB of the bank was not specified in the Law on Credit Institutions of Vietnam, this leader was quite well-known in the banking industry and was a member of the BoD of ACB [15]. Therefore, the news of this former leader's arrest had a negative impact on the entire banking industry. Two days after the event, the bank's stock price continued to decline when the market received more information that the CEO of ACB resigned and was arrested immediately, the AR of this industry stock was AR [2] = –5.1%. In the 10 days after the event, there was another day of a significant decline in the banking industry's AR, which is AR [4] = –4.8%. *Table 2* shows that the CAR of the banking industry is all negative and statistically significant since the event date. In which, CAR at event windows with negative values above –10% are [–10; 5]; [–10; 10]; [0; 5]; [0; 8]. It shows that the CAR of the banking industry fell more sharply 5 days after the event than during the –/+10 days period after the event. This result demonstrates that to an unanticipated event, stock returns react most strongly in the first days after the event is announced, then the response declines in the following days. The fact that the stock reacts long after the event date, as demonstrated by AR and CAR, is statistically significant, indicating that the semi-strong form is violated. The event of ACB causing a drop in all listed banking stocks [29], causing both the AR and the CAR of the banking industry to be meaningfully negative, refuted the hypothesis. Hypothesis H01 demonstrates no competition effect for this event in the banking

Table 2

Cumulative Abnormal Return Results of Nine Industries at Event Windows

CAR [*t*1 – *t*2]	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
[–6; 0]	–0.004	0.017	0.004	0.060	–0.008	0.071	0.023	0.037	0.047
[–5; 0]	0.001	0.016	0.010	0.056	–0.008	0.077	0.013	0.031	0.049
[–4; 0]	–0.004	0.011	0.004	0.058	–0.003	0.079	0.001	0.018	0.049
[–3; 0]	0.003	0.011	0.007	0.062	0.004	0.072	–0.008	0.014	0.047
[–2; 0]	0.006	0.012	0.012	0.055	0.008	0.048	–0.002	0.011	0.033
[–1; 0]	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
[0; 2]	**–0.047***	**–0.076*****	**–0.056****	**–0.048***	**–0.021**	**–0.063*****	**–0.042****	**–0.038****	–0.024
[0; 3]	–0.037	**–0.043***	–0.023	–0.009	0.007	–0.028	–0.017	–0.007	0.014
[0; 4]	**–0.084****	**–0.091*****	**–0.057***	–0.062	–0.014	–0.035	–0.032	–0.041	–0.038
[0; 5]	**–0.089****	**–0.103*****	–0.053	–0.037	–0.007	–0.003	–0.023	–0.033	–0.014
[0; 6]	**–0.071***	**–0.092****	–0.026	0.001	0.007	–0.001	–0.015	–0.002	0.028
[0; 7]	–0.055	**–0.084****	–0.030	0.007	0.000	–0.005	–0.020	0.003	0.037
[0; 8]	–0.079	**–0.103****	–0.042	0.019	0.000	0.000	–0.001	0.008	0.048
[0; 9]	–0.065	**–0.096****	–0.034	0.017	0.009	0.002	0.024	0.022	0.055
[0; 10]	–0.086	**–0.098****	–0.047	–0.006	0.000	–0.006	0.020	0.021	0.038
[–10; 5]	**–0.1338***	**–0.1338****	–0.1052	–0.0405	–0.0552	0.0478	–0.0348	–0.0247	–0.0399
[–10; 10]	**–0.1308***	**–0.1285****	–0.0992	–0.0101	–0.0477	0.0446	0.0083	0.0287	0.0122
[–10; 9]	**–0.1096***	**–0.12.62****	–0.0869	–0.0132	–0.0394	0.0529	0.0124	0.0297	0.0297

Source: Authors' compilation and calculations.

industry. This can be explained by cross-ownership among banks in Vietnam during this time period. When banks cross-own each other, bad news from one bank affects the other banks. Cross-ownership between banks and social network theory explain the contagion of negative and persistent effects of one bank on the other banks.

Finance industry: Similar to the banking industry, the legal event related to former senior leaders of ACB also had a negative impact on the Finance industry. AR of the Finance industry that is statistically significant at 3 days includes $t = 0; 2; 4$. The difference in the reaction of the Finance industry compared to the Banking industry to this event is the comparison between the absolute value of the AR on day $t = 2; 4$. The absolute value of the AR of the Banking industry after the event date is negative but decreasing, but for the Finance industry, AR [4] decreases more than AR [2]. This result shows that the legal involvement of former top managers of ACB is officially announced, on the contrary, the Vice Chairman of the ACB Founding Council before his arrest was still the Chairman of the BoD of a number of businesses in the financial sector [22], but this information is only known by the market for a few days. Day after the event date. As a result, the uncertainty about the financial companies directly related to this leader caused the AR of Finance stocks on $t = 4$ to fall more sharply than on $t = 2$; and the CAR [–10; 10] of the Finance industry –13.08% is more negative than the CAR of the Banking industry –12.85%. Concerns about uncertainty and social networks diffused the negative impact of the event on the Finance industry. In addition, the CAR of the Finance industry is statistically significant in event windows including: [0; 2]; [0; 4]; [0; 5]; [0; 6]; [–10; 5]. The leader was both the VCFB of ACB before his arrest and also the Chairman of the Boards of three financial companies [22], but all three of these companies were not listed on the market. Therefore, the reaction of financial stocks to this event is mainly influenced by psychological factors in the context

of uncertainty. This result rejects hypothesis H02, it shows that this event not only negatively affects the banking industry but also spreads a negative impact to the whole financial industry. At the same time, it also shows that the market is not efficient in the semi-strong form.

Non-financial industries: The AR of all seven non-financial industries were significantly negative at the event date $t = 0; 2$. At the event date, the non-financial industry's AR ranged from –5.7% (Oil & Gas) to –3.0% (Consumer Services). At day $t = 2$, the AR of these industries ranged from –5.4% (Oil & Gas) to –2.6% (Consumer services). Only the Health Care had AR [1] = –3.2% which was statistically significant. At $t = 4$, except for the Health Care and Consumer Goods, the AR of the remaining 5 industries were all statistically significant, including Consumer services (–2.1%); Industry and Materials are both –3.4%; Oil&Gas and Utilities are both –5.2%. Statistically significant CAR of non-financial industries is mainly concentrated on the [0; 2] window day. Except for Consumer Services and Utilities which are not statistically significant at any event window, the remaining sectors with significant CAR include Health Care (CAR [0; 2]); Industry (CAR [0; 2]); [0; 4]); Oil&Gas (CAR [0; 2]); Consumer Goods (CAR [0; 2]) and Materials (CAR [0; 2]). This result shows that although the arrest of former top managers of ACB is directly related to ACB in the banking industry, it not only affects ACB (Phuong, 2021b), the banking industry but also affects non-financial industries. This result is explained by Finance and Banking (Phuong, 2021) which are two industries with a high proportion in Vietnam's stock market. Therefore, the decline of these two industries will significantly affect the herd mentality of investors in the whole market, thereby affecting the AR of the remaining industries. This result rejects hypothesis H03, in favor of the inter-industry contagion effect and herd mentality to explain the stock market inefficiencies.

Comparing the reactions of the banking and other industries: When comparing the response of the same event to the stock returns of the banking industry with the stock returns of the other eight industries, it was found that differences in impact levels and persistent responses across industries. In other words, the research results reject Hypothesis H04. In terms of impact, most of the statistically significant AR of the banking industry in the event windows are larger in absolute value than in other industries except Oil&Gas and Utilities. The reaction of the Oil&Gas and Utilities industries, as measured by AR, was even higher than the reaction of the Banking industry on some days. The absolute value of the Oil&Gas AR is higher than that of the banking industry at three days $t = 0; 2; 4$; The absolute value of Utilities AR is higher than that of Banking at day $t = 4$. This result shows that the Oil&Gas industry and the Utilities industry are quite sensitive to events related to legal factors. Regarding the persistent reaction, it has been proven that the negative impact of this event is persistent on the Banking industry as the CAR of 9 consecutive event windows starting from the event date and are all significant. In the remaining 8 industries, the Finance industry was affected the longest when the CAR of 4 event windows ([0; 2]; [0; 4]; [0; 5]; [0; 6]) are statistically significant; Industry has two event windows, [0; 2] and [0; 4]; four sectors (Oil&Gas, Health Care, Consumer Goods, Materials) with event window [0; 2].

CONCLUSION AND RECOMMENDATIONS

Conclusion

The purpose of this article is to investigate how the announcement of the arrest of the VCFB and the former CEO of ACB affects the stock returns of the Banking industry, Financial and non-financial on VST. An event study is a method used to study the reactions of nine different industries in the stock market. Event windows are established for a period of –/+ 10 days around the event date and return each industry is considered in response to these event windows. Research results show that the legal events of people related to ACB are completely unexpected for the entire stock market. It is represented by AR being insignificant for all industries before the event is announced.

Recommendations

Legal events related to ACB caused the Banking industry to decrease by –10.3%, the Finance sector by –8.9% for the event window [0; 5], and the non-Finance industry to decrease significantly at the event window [0; 2] from –3.8% (Materials) to

–6.3% (Health Care). The sharp decline in share returns of most industries for a banking event showed the industry's role in Vietnam's stock market and the rapid spread of negative sentiment from one industry to other industries. This fact raises the need for clear regulations on cross-ownership for credit institutions, monitoring, and disclosure mechanisms to limit the impact and similar events occurring in the future. In addition, it is necessary to remove the exclusion in compliance with the supervisory framework and expand the supervision rights of bank-owning shareholders. For example, management agencies of credit institutions need to promptly remind and take actions when banks offer high-level leadership positions that are not recognized by law (such as VCFB). Vietnam's stock market is still quite young so far, so in order for the stock market to be sustainable and to avoid temporary herd-psychological effects, the regulatory agency in charge of the stock market needs to hold regular meetings. The seminars aim to improve the knowledge and analytical skills of the majority of investors in the VST.

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ABOUT THE AUTHOR

Lai Cao Mai Phuong — Dr. Sci. (Econ.), Lecturer, Faculty of Finance and Banking, Industrial University of Ho Chi Minh City, Vietnam
https://orcid.org/0000-0002-2947-2488
laicaomaiphuong@iuh.edu.vn

Conflicts of Interest Statement: The author has no conflicts of interest to declare.

The article was submitted on 17.01.2022; revised on 04.04.2022 and accepted for publication on 27.06.2022. The author read and approved the final version of the manuscript.